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| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER | | | | |
| ARMOUNCHE, HADI S | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/509,872

Applicant(s)

SUZUKI, HIDEYUKI

Examiner

HADI ARMOUCHE

Art Unit

2432

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2010.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) 6,8,9,12-14 and 16-18 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5,7,10,11 and 15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 10/01/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/20/2009
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group 1 (claims 1-5, 7, 10, 11 and 15) in the reply filed on 01/07/2010 is acknowledged.
2. Claims 1, 4, 11 and 15 have been amended; claims 6, 8-9, 12-14 and 16-18 have been withdrawn; claims 1-18 remain pending.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Information Disclosure Statement

4. The listing of references in the specification (page 3 line 21) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5, 7, 10, 11 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-5, 7 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 2-5, 7 and 10 include means (or step) plus function limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function.

9. Applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or
- (c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 4, 5, 7 and 10 are rejected under 35 U.S.C. 101 because they are directed towards a system (terminal) with no hardware elements listed in the limitations.
12. Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim is directed towards a computer readable storage medium that the specification (page 42 lines 1-3) does not further defines what it encompasses. An ordinary skill in the art will define computer readable storage medium as a carrier wave or a signal which are non-statutory. Applicant is advised to add the limitation "non-transitory" before "computer readable storage medium" to over come the rejection of claim 15 under 35 U.S.C 101.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masamitsu (JP 2001-136159) submitted by the applicant is IDS on 07/20/2009 in view of Kadansky et al. (US 6,295,361) referred to hereinafter by Kadansky.
15. Regarding claim 1, Masamitsu teaches *a wireless ad-hoc communication system including a plurality of terminals, the communication system comprising:*

a first terminal configured to encrypt a payload of a broadcast frame and to transmit the broadcast frame [paragraphs 0008-0009 and 0014];

a second terminal configured to receive the broadcast frame and to decode the payload of the broadcast frame [paragraphs 0014, 0020, 0022-0026], wherein

the first terminal is configured to encrypt the payload of the broadcast frame using a broadcast encryption key assigned to the first terminal [paragraphs 0008-0009 and 0014];

the second terminal is configured to determine an end-terminal identifier in the broadcast frame as a broadcast address, and decode the payload of the broadcast frame using the broadcast encryption key assigned to the first terminal [abstract, paragraphs 0014, 0020, 0022-0026],

Masamitsu doesn't explicitly disclose that *any terminal in the plurality of terminals is configured to perform the role of said first terminal and said second terminal.*

However, Kadansky discloses any terminal in the plurality of terminals may perform the role of said first terminal or said second terminal (see fig. 1, and "A node may be both a sender and a receiver of data to and from other nodes, col. 1, lines 29-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Masamitsu with Kadansky to enable first and second terminals have interchangeable role and this allow a terminal to transmit and receive data to and from other terminals.

16. Regarding claim 2, Masamitsu teaches that *the second terminal includes: an encryption-key management list table having at least an encryption-key management list including a set of a terminal identifier of the first terminal and the broadcast*

encryption key assigned to the first terminal; means for searching the encryption-key management list table based on the terminal identifier of the first terminal included in an origination-terminal identifier of the received broadcast frame to extract the corresponding broadcast encryption key assigned to the first terminal; and means for decoding the payload of the broadcast frame using the extracted broadcast encryption key assigned to the first terminal [paragraphs 0008, 0009, 0014, 0020, 0022-0026, 0040 and 0057-0058].

17. Regarding claim 3, Masamitsu teaches that *wherein the first terminal includes: a generated-key table configured to store the broadcast encryption key assigned to the first terminal; means for encrypting the payload of the broadcast frame using the broadcast encryption key assigned to the first terminal stored in the generated-key table; and means for transmitting the encrypted broadcast frame* [paragraphs 0008, 0009, 0014, 0020, 0022-0026, 0040 and 0057-0058].

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 4-5, 7, 10, 11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Masamitsu (JP 2001-136159) submitted by the applicant is IDS on 07/20/2009.

20. Regarding claim 4, Masamitsu teaches *a terminal comprising:*

an encryption-key management list table having at least one encryption-key management list comprising a terminal identifier of a different terminal, a unicast encryption key between the terminal and the different terminal, and a broadcast encryption key assigned to the different terminal [paragraphs 0008, 0020, 0022-0026 and 0040];

means for searching the encryption-key management list table for the encryption-key management list including an origination-terminal identifier of-a corresponding to an originating terminal identifier in the received broadcast frame [paragraphs 0057-0058];

means for extracting a broadcast encryption key from the encryption-key management list that corresponds to the origination-terminal [paragraphs 0060-0061];
and

means for decoding a payload of the broadcast frame using the extracted broadcast encryption key [paragraphs 0060-0061].

21. Regarding claim 5, Masamitsu teaches *a terminal comprising:*

an encryption-key management list table having at least one encryption-key management list configured to store a unicast encryption key between said terminal and a different terminal and a broadcast encryption key assigned to the different terminal in association with a terminal identifier of the different terminal [paragraphs 0005, 0008, 0020, 0022-0026 and 0040];

means for searching, when a destination-terminal identifier of a received frame is a broadcast address, the encryption-key management list table for the encryption-key management list including an origination-terminal identifier of the frame to extract the

corresponding broadcast encryption key as an encryption key, and when the destination-terminal identifier of the received frame is other than a broadcast address, searching the encryption-key management list table for the encryption-key management list including an origination-terminal identifier of the frame to extract the corresponding unicast encryption key as the encryption key [paragraphs 0005, 0057-0058 and 0060-0061]; and

means for decoding a payload of the frame using the extracted encryption key [paragraphs 0060-0061].

22. Regarding claim 7, Masamitsu teaches a terminal comprising:

a generated-key table configured to store a broadcast encryption key assigned to said terminal [paragraphs 0005, 0008, 0020, 0022-0026 and 0040];

an encryption-key management list table having at least one encryption-key management list configured to store a unicast encryption key between said terminal and a different terminal in association with a terminal identifier of the different terminal [paragraphs 0005, 0008, 0020, 0022-0026 and 0040];

means for, when a frame to be transmitted is a broadcast frame, encrypting a payload of the broadcast frame using the broadcast encryption key of the generated-key table, and when the frame to be transmitted is a unicast frame, searching the encryption-key management list table for the encryption-key management list including a destination-terminal identifier of the unicast frame to encrypt a payload of the unicast frame using the corresponding unicast encryption key; and means for transmitting the encrypted frame [paragraphs 0008-0009, 0014 and 0057-0058].

23. Regarding claim 10, Masamitsu teaches *a terminal comprising:*

means for receiving a terminal identifier and a broadcast encryption key of a different terminal from the different terminal [paragraphs 0014, 0020, 0022-0026];

means for encrypting the terminal identifier and the broadcast encryption key of the different terminal using a broadcast encryption key assigned to the terminal [abstract, paragraphs 0014, 0020, 0022-0026 and 0060-0061]; *and*

means for broadcasting the encrypted terminal identifier and broadcast encryption key of the different terminal [paragraphs 0014 and 0015].

24. Regarding claims 11 and 15, Masamitsu teaches *a method for decoding a broadcast frame in a terminal that includes an encryption-key management list table having at least one encryption-key management list including a terminal identifier of a different terminal, a unicast encryption key assigned for communication between the terminal and the different terminal, and a broadcast encryption key assigned to the different terminal* [paragraphs 0005, 0008, 0020, 0022-0026 and 0040], *the method comprising:*

searching the encryption-key management list table for the encryption-key management list including an origination-terminal identifier corresponding to an originating terminal identifier in a received broadcast frame to extract a broadcast encryption key corresponding to the origination-terminal identifier [paragraphs 0005, 0057-0058 and 0060-0061]; *and*

decoding a payload of the broadcast frame using the extracted broadcast encryption key [paragraphs 0060-0061].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HADI ARMOUCHE whose telephone number is (571)270-3618. The examiner can normally be reached on M-Th 7:30-5:00 and Fridays half day.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A./
HADI ARMOUCHE
Examiner, Art Unit 2432

/Benjamin E Lanier/
Primary Examiner, Art Unit 2432